

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/004343

International filing date (day/month/year)
26.03.2004

Priority date (day/month/year)
28.03.2003

International Patent Classification (IPC) or both national classification and IPC
G01R15/16, G01R29/12, G01R29/24, G01D5/241

Applicant
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1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITYInternational application No.
PCT/JP2004/004343

J005 Rev U PCT/PTO 26 SEP 2005

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2004/004343

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1 - 11
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1 - 11
Industrial applicability (IA)	Yes: Claims	1 - 11
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Reference is made to the following documents:

D1: US-B-6 177 8001 (HUBBLE III FRED F ET AL) 23 January 2001 (2001-01-23)

Remark: The present application does not meet the criteria of Article 6 PCT, because the subject-matter of claims 4, 6 and 7 is not clear.

In claims 4 and 6 it is not clear where exactly the insulator layer is formed.
The term "electrode has a divided structure (claim 7, line 3 of claim) is also not clear.

2. NOVELTY

2.1 The document **D1** is regarded as being the closest prior art to the subject-matter of claim 1 and discloses (the references in parentheses applying to this document): an electric potential measuring device comprises: a detection electrode comprised of a conductive material (30) and disposed in opposition to an object to be measured (42); a movable structure (32) comprised of a first material portion comprised of a dielectric and a second solid material portion comprised of material having a relative dielectric constant different from the dielectric or a conductive material and disposed so as to come to the object to be measured side of the detection electrode (30); and a drive mechanism (D) for moving the movable structure (32) in such a way as to change a positional relationship of the first and second solid material portions for the detection electrode (30) in an area between the detection electrode (30) and the object to be measured, wherein a charge induced on the detection electrode(30) by electric lines of force emanating from the object to be messed is modulated by moving the movable structure by the drive mechanism, to measure an electric potential of the object to measured (42).

2.2 The subject-matter of claim 1 therefore differs from this known apparatus in that: that the first dielectric material is a solid material.

2.3 The same applies for the subject-matter of independent claim 11.

The subject-matter of the independent claims 1 and 11 and the subject-matter of the dependent claims 2 - 10 (claims 4, 6, 7 as far as could be understood from the wording) is new and meets the requirement of Art. 33(2) PCT.

3. INVENTIVE STEP

3.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 11 does not involve an inventive step in the sense of Article 33(3) PCT.

The difference between the invention disclosed in claim 1 and the measuring device disclosed in D1, is indicated in paragraph 2.2.

3.2 The problem to be solved is to prevent infiltration of fine particles to space between the shutter and electrode.

3.3 The subject-matter of claims 1 cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons:

The subject-matter of claim 1 consists merely in a replacing of a gas dielectric material by a solid one. Such use of material is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem.

3.4 The same reasoning applies for the subject-matter of claim 11.

3.4 Dependent claims 2, 3, 5, 9 and 10 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, see document D1 (see fig 1) and the corresponding passages cited in the search report.

3.5 The subject-matter of claim 8 is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem.

3.6 The subject-matter of claims 4, 6 and 7 - as far as can be understood from the wording - do not contain any features which meet the requirements of the PCT in

respect of inventive step, because use of isolation layer is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to solve the problem.

INDUSTRIAL APPLICABILITY

The subject-matter of the independent claims 1, 10 and 11 and the subject-matter of the dependent claims 2 - 9 meet the requirement of Art. 33(4) PCT.